

Ploceus nelicourvi (Scopoli)

Four nests were seen over a pool in evergreen forest at Périnet, 16th November. They were all within a few yards of each other, but grouped into pairs, those of each pair being less than two feet from each other. One nest contained two well feathered nestlings, and two infertile eggs, plain light blue without gloss, both measuring 20.0 x 15.0 mm. The generic name is in accordance with Moreau (*Ibis*, 1960: 299).

In addition, at Périnet on 15th/16th November, the following specimens, in or very close to full breeding condition, were collected:— *Newtonia brunneicauda* (2♂), *Tchitrea mutata* (♂), *Copsychus albospecularis* (2♂, ♀), *Neomixis striatigula* (♂), *Ixocincla madagascariensis* (♂), *Leptopterus chabert* (♂), *Calicalicus madagascariensis* (2♂, ♀), *Zosterops maderaspatana* (♂), *Spermestes nana* (♂, ♀). These specimens were shared between the British Museum and the I.R.S.M.

References:—

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More Snake and Lizard Predators of Birds

by CHARLES R. S. PITMAN

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These notes are to a great extent concerned with Africa; *ibid* 78⁽⁵⁾ ⁽⁶⁾ ⁽⁷⁾. Much of the information has been acquired in the course of correspondence.

PART I

SNAKES

(i) Arboreal

(a) *Dispholidus typus* (A. Smith), Boomslang.

AFRICA: NYASALAND. Mr. R. C. H. Sweeney (Dept. of Agriculture), in his open-air vivarium with a *Cassia* tree in the centre, has seen captive boomslangs holding in the mouth respectively one *Lagonosticta* sp., one *Uraeginthus angolensis* (L.) and one *Pycnonotus xanthopygos* (Hemprich and Ehrenberg), which they had caught. Many birds landed in this *Cassia* and it is probable that others were eaten. Though pigeons and doves landed in other *Cassia* trees in the garden, what was noticeable none came to the tree in the vivarium evidently having detected the resident snakes.

Also, Sweeney (1957) shot a ♀ *D. typus* near the entrance to a nest hole in a large breeding colony of some 200 White-fronted Bee-eaters, *Melittophagus bullockoides* (A. Smith) in a river bank some 15 feet above the water level. The snake contained three undeveloped nestlings. The reptile was near the top of the bank and was being vigorously assailed by the bee-eaters which were circling and swooping down towards it.

NORTHERN RHODESIA. Mr. J. E. Newby has fed small fowls' eggs

to *D. typus* in captivity. Like cobras the boomslang swallows an egg complete, and digestion of the shell and its absorption normally takes about two to three days.

SOUTHERN RHODESIA. D. G. Broadley (¹: pp. 36-37) records that two stomachs examined contained fledglings, and that captive *D. typus* will readily take offered birds' eggs.

Mr. B. U. Neuby Varty while watching the nest of a Scimitar Bill, *Rhinopomastus cyanomelas schalowi* Neum. left it for a few days after it contained two eggs. On his next visit there was a boomslang in the nest (in a hole in a tree) and no eggs. On another occasion he saw a very long boomslang emerge from a barbet's nesting hole.

SOUTH AFRICA. Miss M. Courtenay-Latimer, Director of the Port Elizabeth Museum, writes "The biggest nest robber in our forests is *Dispholidus typus*". She quotes three instances of its predation of the Cape Canary, *Serinus canicollis* (Swainson), when respectively young chicks, eggs of five days incubation, and eggs just hatching were taken, and also records that a boomslang took a full fledged family of the Bokmakierie, *Telophorus zeylonus* (L.) which were ready to leave the nest.

According to V. Fitzsimons and C. K. Brain (²³: p. 103), in the Kalahari Gemsbok National Park, the main food of *D. typus* includes nestling birds and eggs.

GENERAL. The boomslang is one of the snakes which, in captivity, feeds freely on dead birds, though it approaches them more cautiously than it does lizards or chameleons. The mouth is gaped and placed over the body of the bird and a 'chewing' motion started. The snake then works to the head and starts to swallow. Bird movement in a tree in a vivarium attracts a boomslang's attention.

(b) *Thelotornis kirtlandii* (A. Smith), Bird Snake, Twig Snake or Vine Snake.

AFRICA: NYASALAND. According to Sweeney birds are one of the chief items of its diet in the Shire Valley region where it is very common. In three years he records three instances of Weaver birds (species not determined) being eaten; one case of *Ploceus? intermedius* Rüppell in the process of being swallowed; two regurgitated *Colius indicus* Latham (Red-faced Mousebird) from one snake; *C. indicus* from the stomach of another snake; one regurgitated *Serinus* sp., believed to be *Serinus mozambicus* (Müller), from another; *S. mozambicus* seen to be stalked and caught; one *Lagonosticta senegala* (L.) caught; and another snake contained a *Passer griseus ugandae* Reich. Grey-headed Sparrow. A *Lagonosticta* sp. was seized when it landed in a tree in an open vivarium. Although many wild birds landed in this tree or even fed on the ground inside the vivarium, this was the only bird seen to be taken by a *Thelotornis*.

Sweeney believes that bird predation by *Thelotornis* is not a rarity under some ecological conditions and then birds may be one of the main items in its diet. In a Nyasaland region where this species is common 40 per cent had fed on birds in the many cases in which the prey was known. It is possible that when lizards are relatively scarce *Thelotornis* feeds more commonly on birds.

NORTHERN RHODESIA. Mr. C. D. Simpson graphically describes how a 3 ft. 8 in. *T. kirtlandii* stalked a small Zebra Finch, *Estrilda subflava* (Vieillot), which was perched in a tree. "The snake hung, head downwards from a branch, swinging gently to and fro, coming closer to the bird at each swing. When in striking distance, it struck out swiftly, held onto the bird for a moment or two, then released it. The bird died in 8½ minutes and the snake came down and ate it on the ground, starting at the head."

SOUTHERN RHODESIA. Broadley (1: p. 38) records that a captive *Thelotornis kirtlandii oatesii* Günther consumed two birds' eggs, and that captive *T. k. capensis* A. Smith seem to prefer cold-blooded prey "although birds and their eggs were occasionally taken".

At the Regent's Park Gardens of the Zoological Society of London *Thelotornis* specimens are very difficult to keep at winter time as usually they feed exclusively on lizards.

(c) *Chrysopelea ornata* (Shaw), Gold and Black Tree Snake.

This is one of the so-called Asian 'flying' snakes, which is adapted for gliding and which may in one movement descend as much as 20 ft.

S. E. ASIA. It is presumably a bird eater, for in captivity (25: p. 312) it takes sparrows.

(d) *Coelopeltis (Malpolon) monspessulana* Hermann, Montpellier Snake.

This is a back-fanged species which attains a length of 7 ft.

EUROPE: S. SPAIN. Guy Mountfort (2) writes that he was reliably informed that this big snake, in the Coto Doñana, sometimes raids the heron colonies, taking eggs and nestlings from the nests in the bushes. But he was not able to verify this by first hand observations.

PORTUGAL. Vide (3: p. 523) Jennifer Owen, with reference to the 1957 autumn migration through south-west Portugal "Twice, a large snake, probably *Celopeltis monspessulana*, was seen to take a small bird, once a Whitethroat and once a Nightingale", from a hedge.

(ii) Mambas

(a) *Dendroaspis polylepis* Günther, Black Mamba.

AFRICA: TANGANYIKA. Mr. Myles Turner, a Warden in the Serengeti National Park, describes how a black mamba over 8 ft. long lived in the roof of a house at Banagi in 1957, feeding on the Square-tailed Swifts, *Apus affinis* (Gray) which were nesting in the verandah eaves.

NYASALAND. Sweeney *in litt.* has found (1958) the remains of a pigeon, *Treron* sp., probably *Treron delalandii* (Bonaparte), in a mamba near Sorgin; and he further records that in captivity *D. polylepis* readily devours dead doves, *Streptopelia* spp.

(b) *Dendroaspis angusticeps* (A. Smith), Green Mamba.

AFRICA: KENYA. Mr. J. G. Williams, of the Coryndon Museum, Nairobi, (1959) at Kilifi on the Kenya Coast, killed a green mamba which had a Greenbul, *Andropadus importunus* (Vieillot) in its stomach.

NYASALAND. According to Sweeney, green mambas in captivity readily devour dead doves, *Streptopelia* spp.

(c) *Dendroaspis jamesoni* (Traill), Forest (Green) Mamba.

AFRICA: UGANDA. In the Bwamba Forest, on the Congo border at the edge of the Ituri Forest, Mr. T. Mathews shot an unidentified green tree snake believed to be a mamba (it could have been the boomslang, *Dispholidus typus* C.R.S.P.), which had two mannikins, *Spermestes* sp. in its stomach.

(iii) Cobras

General. INDO-PACIFIC REGION. Loveridge (¹⁰: pp. 149 and 151) mentions how cobras, *Naja* spp., in their fondness for chicks and eggs, invade hen-houses. The eggs are swallowed whole, and the gastric juices take two days and nights to dissolve the shell of a fowl's egg. He further records that birds are also taken.

AFRICA: KENYA. Mr. W. P. Keller (*in litt.*) when in Masai Land "a point of interest in regard to snakes is that cobras especially are sometimes found in huts and houses where poultry are kept. I have never heard of a single instance where either the birds or eggs had been molested, while the snakes seem intent only on rats that frequent such places."

COMMENT. The cobras concerned are *Naja haje* and *Naja nigricollis*, and this freedom from predation of the poultry and their eggs is contrary to what is usual from the Sudan to the Cape. C.R.S.P.

SOUTHERN RHODESIA. Mr. P. St. J. Turnbull-Kemp, Senior Warden of the Rhodes-Inyanga Estate, National Parks Department, saw an engorged cobra leave the nesting hole of the Giant Kingfisher, *Megaceryle maxima* (Pallas).

SOUTH AFRICA. Lieut-Colonel J. Stevenson-Hamilton (¹²: p. 117) "Fowl-houses must be protected by small wire mesh against cobras; the local type, known as *mfezi* is very fond of young chickens, and if one succeeds in effecting an entrance, it is sure to kill several of the fowls, whether it finds any chicks or not."

(a) *Naja haje* (L.), Egyptian Cobra or Banded Cobra.

AFRICA: SOUTHERN RHODESIA. Neuby Varty writes that a banded cobra for a while raided a hen-run every day and stole eggs.

(b) *Naja nigricollis* Reinhardt, Black-necked or 'Spitting' Cobra.

AFRICA: GHANA. Mr. G. T. Crellin describes how one of these cobras was killed, in a fowl-run, coiled amongst a broken sitting of eggs after it had killed three hens.

TANGANYIKA. Myles Turner has twice seen the 'spitting' cobra about to strike a bird. Once he came on one poised over two juvenile Coqui Francolins, *Francolinus coqui* (A. Smith); and another time saw a very large example "... about to strike a small bird. The bird was on the ground staring up at the cobra whose head was not one foot away ... the bird made no movement to escape".

NORTHERN RHODESIA. Mr. P. S. M. Berry (1959) shot a 5 ft. 'spitting' cobra, *Naja nigricollis crawshayi* Günther in a fowl-run "where it was presumably searching for hens' eggs".

Newby (1960) describes how a 4½ ft. *Naja n. crawshayi* captured in a fowl-run near Kitwe disgorged 12 hen's eggs while in transit, and then within 24 hours had reconsumed eight of these eggs which were returned to it.

According to Newby, *Naja nigricollis* when in captivity will take small fowls' eggs, which are swallowed whole. Digestion of the shell and absorption takes about two to three days.

SOUTHERN RHODESIA. Broadley (¹: p. 63) records that these "cobras are persistent raiders of poultry runs . . . A 6ft. cobra killed at Irisvale contained two well-grown chickens."

Mr. J. Bennefield writing from Bulawayo "We have shot several 'spitting' cobras in our fowl-run, but have never caught them in the act of removing the eggs."

(c) *Naja flava* (Sparrman), Cape Cobra or Yellow Cobra.

SOUTH AFRICA. Miss Courtenay-Latimer *in litt.* "Yellow cobra is responsible for eating plover, korhaan (bustard) and sandgrouse eggs and chicks." Quoting specific cases:— Cape Dikkop, *Burhinus capensis* (Lichtenstein), three eggs devoured at Waverley, Cape Province (6th October, 1928); Blue Korhaan, *Eupodotis caerulescens* (Viellot), three eggs taken at Thebus, C.P. (9th August, 1925); and at Teviot, in September 1923, a Cape cobra ate 20 sets of three eggs before it was killed, out of 35 nesting Namaqua Sandgrouse, *Pterocles namaqua* (Gmelin) on a ridge of rocky hills.

According to Fitzsimons and Brain (²³: pp. 103–104), in the Kalahari Gemsbok National Park, small birds are included in the food of the Cape Cobra.

(d) *Naja melanoleuca* Hallowell, Black-lipped or Forest Cobra.

UGANDA. *Vide* (⁴: para. 346) a cobra consumed a sitting of duck's eggs at the Kajansi Fish Farm.

(e) *Naja tripudians* (Merrem), Indian Cobra.

S.E. ASIA. Colonel F. Wall (²⁵: p. 470) "Sometimes birds are attacked and killed, especially poultry . . . hen and six chicks killed one night." A cobra which got into a quailery killed thirteen quails, but only one was swallowed. Wall records that a guinea-fowl egg taken from a cobra's stomach was set under a hen and hatched out, and on another occasion the same was done with a hen's egg. Also, six guinea-fowl eggs swallowed out of a sitting of fifteen, which were recovered were set and three hatched. Experiments indicate that the gastric juices of a cobra take 48 hours to dissolve egg-shells.

(f) *Pseudohaje goldii* (Boulenger), Gold's Arboreal Cobra.

CONGO. Professor R. Laurent (⁵: p. 126) "An example which lived three months in captivity . . . fed exclusively on batrachians: it invariably refused mammals and birds."

(iv) Sea Snakes

BORNEO. According to Mr. Tom Harrisson, Curator, Sarawak Museum (⁶: p. 220) "Sea snakes often eat the eggs of the Black-naped Tern, *Sterna sumatrana*" Raffles.

In litt. Harrisson informs me that these "sea snakes" attain a length of "5 ft. or so", and regularly come "onto the islet and I once found three there in one day. Apparently it cannot *break* eggs (some snakes do, of course, like the racers) but swallows them and digests them slowly. I once found one with *three* egg swellings along its length, lying in the scrub above high water mark. I fancy they concentrate on the smaller eggs of the Black-naped, which nest exclusively on the lower levels, whereas the larger Brown-winged (*Sterna anaetheta* Scopoli) nest higher up". The identity of this sea snake is believed to be *Laticauda (Platurus) colubrina* (Schneid.), Common Banded Sea Snake or Amphibious Sea Snake. The sea snakes of this genus are the only ones which habitually come onto dry land, and which grow to so large a size, with a maximum length of 9 ft., though the average is about 3 ft. See (¹⁰: p. 167).

(v) *Notechis scutatus* (Peters), Australian Tiger Snake.

AUSTRALIA: TASMANIA. Mr. John Warham (⁷: p. 607) suggests that the venomous tiger snake, *N. scutatus* probably preys on the eggs and small chicks of the Little Penguin, *Eudyptula minor* (Forster) breeding on Cat Island (Bird Sanctuary) in the Bass Strait.

(vi) Vipers

(a) *Vipera berus* (L.), Adder.

EUROPE: BRITAIN. Maxwell Knight (⁸: p. 86) "Adders will also take nesting birds. I have seen a wren's nest in a tree some four feet from the ground where an adder had taken several young in broad daylight—adders can climb well."

Mr. G. D. Lake (*in litt.*) found a linnet's nest with four eggs and when next day he had a look at it an adder was descending from the empty nest. The presumption was that the adder had taken the eggs.

Mr. Max Wenner took a photo of a young Ring Ouzel, *Turdus torquatus* L. being 'mesmerized' by an adder. The snake was unfortunately disturbed and departed before the end of the act.

(b) *Vipera latastii* Bosca, Latastes' Viper (attains 2 ft.).

EUROPE: SPAIN. According to Guy Mountfort (²), in the Coto Doñana, this is a "local species which preys on ground-nesting birds".

(c) *Vipera lebetina* (L.) (attains 4½ ft.).

CYPRUS. The Bannermans (⁹: p. 148) referring to the Cyprus Wren, *Troglodytes t. cypriotes* (Bate) "Hughes had the good fortune to see these tiny birds mobbing one of the ugly thick vipers, the only dangerous snake in the island."

Such bird behaviour is indicative of this snake's predatory habits, as the birds were evidently treating it as an enemy.

(d) *Bitis arietans* (= *lachesis*) (Merrem), Puff Adder.

AFRICA: NYASALAND. By night, on the Port Herald road, Sweeney (1958) killed a 3 ft. 4 in. puff adder which had swallowed an unidentified species of nightjar (Caprimulgidae). A road constitutes an open space onto which rodents stray and, in consequence, particularly in enclosed country puff adders at night frequent roads to hunt for prey. Similarly, the nocturnal nightjars find the open space of the road provides a wide arc of vision in their search for flying insects.

SOUTH AFRICA. *Vide* (²⁴: p. 27), in the Kruger National Park "A large puff adder was seen to catch a full grown Kurrichane Button Quail, *Turnix lepurana* and swallow it, starting with the head."

(e) *Bitis gabonica* (Duméril and Bibron), Gaboon Viper.

AFRICA: TANGANYIKA. Mr. C. J. P. Ionides made a young Gaboon viper, which had a feather sticking on one side of its mouth, disgorge an unidentified bird about the size of a Kurrichane Thrush. He is now prepared to believe those Africans who claim that this snake does "take young chicks on occasion".

NORTHERN RHODESIA. At Ndola, Mr. D. Campbell (1959) caught a large Gaboon viper when in the process of swallowing a chicken.

Newby records the shooting of a 4 ft. *Bitis gabonica* in a fowl-run near Kitwe while it was swallowing a full-grown fowl.

SOUTHERN RHODESIA. Turnbull-Kemp has given me three records (1956, 1957 and 1960) of domestic poultry taken by *Bitis gabonica*.

COMMENT. It is unlikely that Gaboon vipers deliberately raid fowl-runs, to which they are probably attracted by the rodents which frequent such places. C.R.S.P.

(vii) Pit Vipers

(a) *Ancistrodon acutus* (Günth.), Long-nosed Pit Viper. Attains a length of 5 ft.

ASIA: CHINA and FORMOSA. *Vide* Loveridge (¹⁰: p. 179), a bird was disgorged by one of these snakes.

(b) *Ancistrodon rhodostoma* (Boie), Malayan Pit Viper.

MALAYA and ARCHIPELAGO. Tweedie (²⁶: pp. 114-115) says it takes birds.

NORTH AMERICA.

(c) According to Albert and Anna Wright (²¹), four of these pit vipers prey on birds:—

p. 906 *Ancistrodon contortrix contortrix* (L), Southern Copperhead.

p. 913 *A. c. mokeson* (Daudin), Copperhead.

p. 920 *Ancistrodon piscivorus piscivorus* (Lacépède), Water Moccasin or Cotton-mouth Moccasin.

Mr. B. S. Wright, Director North-eastern Wild Life Station, New Brunswick, Canada (*in litt.*) also lists *A. p. piscivorus* as a bird-eater.

p. 924 *A. p. leucostroma* (Troost), Water Moccasin.

(d) *Trimeresurus wagleri* (Boie), Wagler's Pit Viper. Attains 980 mm. ASIA: BORNEO (and MALAYA and ARCHIPELAGO). According to Harrisson, this snake occurs on the Turtle Islands, one of which is five miles off shore. It is known to take baby turtles and might take the young and eggs of sea birds.

Loveridge (¹⁰: p. 187) describes it as a "climbing" snake, whose food consists chiefly of lizards and birds. Perhaps it should have been included with the arboreal species.

Tweedie (²⁶: p. 117) says its food includes birds.

Wall (^{2b}: p. 559) referring to genus *Trimeresurus* (Lacép.), food also birds.

(e) *Crotalus viridis* (Rafin.), Prairie Rattlesnake; attains a length of 5½ ft.

CANADA: ALBERTA. See Wishart, with reference to *Pituophis catenifer*. The Wrights (²¹: p. 1005) include "some birds" in its food.

(f) Rattlesnakes.

UNITED STATES and CANADA. According to Albert and Anna Wright (²¹), eight rattlesnakes of the Genus *Crotalus* are known to prey on birds, including *Crotalus viridis* (pp. 939-1033). B. S. Wright (*in litt.*) lists *Crotalus* spp. as bird-eaters.

(g) Ground Rattlesnakes.

UNITED STATES. *Vide* (²¹), two of these snakes are known to prey on birds:—

(p. 1046) *Sistrurus catenatus catenatus* (Rafin.), Prairie Rattlesnake.

(p. 1054) *Sistrurus miliarius miliarius* (L.), Ground or Pigmy Rattlesnake.

(viii) Egg-eater

Dasyptis scabra (L.), Egg-eater.

AFRICA: SUDAN. At Lake Keilak, Kordofan, Sweeney (1954) collected specimens in two weaver-bird (*Ploceus*) nests.

TANGANYIKA. On the Mkulumuzi river, Tanga, (1949) Sweeney found an egg-eater in a weaver-bird (*Ploceus*) nest.

NYASALAND. During 1956 and 1958, Sweeney found specimens in four weaver-bird (*Ploceus*) nests along the Shire and Ruo rivers.

NORTHERN RHODESIA. Newby describes how an unusually large (1100 mm.+) egg-eater was seen by Africans being attacked so determinedly by birds of the "thrush type", whose nest it was raiding, that it fell 20 ft. to the ground. Its right eye shield and oculars had been damaged by the birds' pecking. The snake was brought to him, and in captivity it fed on fowls' eggs.

SOUTHERN RHODESIA. Broadley (¹: p. 59) records that captive egg-eaters would only take birds' eggs, and hatchlings consistently refused gecko eggs.

(to be continued)